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This is the third in a series of six annotated bibliographies. It has as its general subject the educational aspects of early childhood and includes three subdivisions: child-rearing practices, school performance, and effects of nursery school and day care. Each of the 11 abstracts included has been classified by general and specific subject, by focus of study, and alphabetically by author. Focus of study categories are normative, environmental, measurement and techniques, intervention, pathology, physiology, animals, and general. The general subjects of other bibliographies in the series are physical, language, cognition, personality, and social aspects of early childhood education. (MS)

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Number 3

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1968

This bibliography is Number 3 in a series of six. The general subject is Education, and it is divided into the following specific subjects:

1. Child-Rearing Practices
2. School Performance
3. Effects of Nursery School and Day Care

The five other bibliographies in this series contain the following general subjects:

1. Physical
2. Language
4. Cognition
5. Social
6. Personality

Every abstract in this series has been coded at four levels; namely, general subject, specific subject, focus of study, and alphabetical by author. In all six bibliographies, the categories under focus of study have been coded as follows:

1. Normative
2. Environmental
3. Measurement and Techniques
4. Intervention
5. Pathology
6. Physiology, Etc.
7. Animals
8. General

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3.1

CHILD-REARING PRACTICES

3.1.1 NORMATIVE

3.1.1.1 Moss, H. A. Methodological issues in studying mother-infant interaction. American Journal of Orthopsychiatry, 1965, 35, 482-486.

Purpose: Evaluate the reciprocal influence of mother-infant behavior and to determine sex differences and short term developmental changes.
Subjects: 25 mother-infant pairs
Procedure: Observations made in the home:
(a) three observations made at weekly intervals during the first month of life in order to evaluate initial adaption process of mother-infant relation.
(b) three observations in third month when relatively stable patterns of behavior are likely to be established.
Method: Observations consist of one 8-hour session in which a modified time sampling technique was used and two 3- hour sessions in which a keyboard that operates in conjunction with the Easterline-Angus Event Recorder was used. Each of the 30 keys represents a maternal or infant behavior. When a keyboard is depressed it activates one or a combination of pens on the recorder and leaves a trace that shows the total duration of the observed behavior. As many as ten behaviors can be recorded simultaneously. This technique allows for a continuous record showing total time and sequencing of behavior, and it permits observer to record the observation without interruption and without having to look away.
Proposals: Amount of time the infant is awake and crying is a potent modifier of materal treatment, since wakefulness and crying are likely to lead to greater maternal surveillance and contact. Data so far indicates that boys sleep less and cry more than girls. It may be interesting if this is related to differential experiences with the mother for the sexes.

3.1.1.2 Radin, N., and Kamii, C., The child-rearing attitudes of disadvantaged Negro mothers and some educational implications. Journal of Negro Education, 1965, 34, 138-146.

Purpose: To study the childrearing attitudes of disadvantaged mothers as compared with middle class mothers. The term "disadvantaged" was defined as referring to the "18 per cent of our population characterized by severe poverty, unstable employment, and the lowest-paid service and unskilled work."
Subjects: 44 culturally deprived Negro mothers, and 50 middle class Caucasian mothers of 3-, 4-, or 5-year olds living in a midwestern city. The culturally deprived sample was obtained from a nursery school for disadvantaged children and the middle class sample was obtained from kindergarten classes in the middle class neighborhoods.
Method: Socioeconomic status was determined by a formula which took into account parents, education, occupation, and crowding in the home. The Parental Attitude Research Instrument, which consists of 115 statements on childrearing, was administered individually to each subject. Each subject expressed her level of agreement with every statement.
Results: Both lower and middle class mothers agree that "babies are helpless" and need protection, "children need discipline and firm rules" and children have rights as members of the family and should share in decision making, and parents should earn the respect of their children. They disagree in that lower class mothers stress early independence (get the child out of the helpless stage of infancy as early as possible) but at the same time are more protective (a mother should protect a child "from life's little difficulties") and more controlling (a mother should know her child's innermost thoughts; interest in sex and aggressive behavior must be suppressed). In beliefs and attitudes toward themselves and their families (1) both agreed that husband-wife conflicts are expected and that motherhood was a "nerve racking job" (however, only disadvantaged subjects saw themselves as suffering and having little fun and expressed a sense of alienation and isolation from the rest of the community); (2) the disadvantaged subjects believe that it is the mother, not the father, who is responsible for the welfare of the family.

3.1.1.3 Walters, J., Connor, R., and Zunich, M. Interaction of mothers and children from lower class families. Child Development, 1964, 35, 433-440.

Purpose: To study the change in behavior of lower class mothers when interacting in an unstructured situation with their children after an "expert" has expressed disapproval of the child's previously observed behavior. This experiment was designed to duplicate an experiment done with middle

and upper class mothers by R. Merrill (A measure of mother-child interactions. Journal of Abnormal and Social Psychology, 1946, 41, 37-49).

Subjects: 40 mothers, white American born, 20 to 30 years of age, full time homemakers with two or more children; 20 were observed with a female child, 20 with a male child (ages 3 1/2 to 5). Measure of socioeconomic status was determined by the McGuire-White Index of Social Status (short form). All mothers were classified as lower class.

Method: Mother's behavior was categorized every 5 seconds for 30-minute periods. The categories were: being uncooperative, contacting, criticizing, directing, giving permission, giving praise or affection, helping, interfering, interfering by structurizing, lending cooperation, observing attentively, playing interactively, reassuring, remaining out of contact, restricting, restructuring, teaching. On predata collection sessions, observer reliability ranged from 83 per cent to 100 per cent.

Procedure: Mothers were observed during two sessions. The first time all were told that the experimenter was interested in the child's behavior. Before the second session, the group was randomly divided into two groups. The experimental group was told by the experimenter that he was disappointed in the child's performance and maybe the child would do better this time since he was familiar with the environment. Nothing was said to the control group.

Results: (1) The control group exhibited more helping behavior during the second session ($p < .05$). (2) There was a significant increase from the first to the second session for the experimental group in contacting, directing ($p < .01$) and structuring response ($p < .05$). A decrease was observed in remaining out of contact ($p < .01$). (3) Experimental subjects observed with daughters exhibited more contacting and structuring behavior in the second session, whereas subjects observed with sons exhibited more restricting behavior ($p < .05$). (4) In a comparison of Merrill's upper and middle class mothers with the lower class mothers of this study, it was found that the middle and upper class mothers exhibited four times more directing behavior, nine times more helping behavior, five times more structurizing behavior, and three times more teaching behavior.

3.1.1.4 Waters, E., and Crandall, V.J. Social class and observed maternal behavior from 1940-1969. Child Development, 1964, 35, 1021-1032.

Purpose: To study the relationship between socioeconomic status and child-rearing practices over the last 20 years. Also, to ascertain whether there have been changes in the techniques of child-rearing in the last 20 years and, if so, whether they coincide with changes in "expert" opinions.
Subjects: All mothers were from families enrolled in the Fels Institute Longitudinal Study. (a) 1940 group--40 subjects were observed between 1939 and 1940. (b) 1950 group--32 subjects were observed between 1948 and 1952. (c) 1960 group--35 subjects were observed between 1959 and 1961. All were observed at home in interaction with their nursery school age children. All were white, and the three groups did not differ significantly in their socioeconomic distribution as measured by the Hollingshead Index of Social Position. The authors pointed out that the total group is "top-heavy"; i.e., has a greater preponderance of upper and middle class families than does the general population.
Method: Nine of the Fels Parent Behavior Rating Scales were used: two measuring nurturant behavior, two measuring affectionate behavior, two measuring coercive behavior, and tests of restrictiveness of regulations, clarity of policy, and accelerational attempts.
Results: 1. No significant differences were found in treatment of different sex children. 2. No significant relationship was found between social class and nurturant or affectionate behavior. 3. In all three time periods, the higher the family status, the less restrictive was the mother. 4. Mothers of higher socioeconomic status have more clearly formulated child-rearing policies and more often attempt to accelerate their children's achievement development. However, this relationship has decreased over the last 20 years. 5. Mothers of the 1960's were most similar to mothers of the 1940's. Mothers of the 1950's were not nurturant and affectionate and exhibited the greatest efforts to make their policies clear to their children. 6. From 1940 to 1960, maternal coerciveness employed in socialization decreased.

3.1.2 ENVIRONMENT

3.1.2.1 Medinnus, G.R., and Mead, E.D. Comparison of a projective and a nonprojective assessment of parent attitudes. Journal of Genetic Psychology, 1965, 107, 253-260.

Problem: Do the factors isolated on the Parent Attitude Research Instrument (PARI) developed at National Institute of Mental Health also appear in projective tests of parents' attitudes toward their children? PARI isolates two factors: hostility-rejection; authoritarian-control.

Methods: Subjects--33 mothers of children under six years old. Mothers' ages were 20 to 39; average was 27; mother's schooling--average was 13 years; range was 8 to 17; father's education--average was 15 years; range was 6 to 17; lower-middle income parents.

Procedure: Mothers complete PARI at home. Eight cards selected from 18 of the Travis-Johnston Test administered--mothers make up story about the picture ("pictures depict adults and children of both sexes in a number of situations and relationships in the important and potentially trouble-some areas in the socialization of the child"). Responses recorded verbatim.

Scoring: PARI test was scored according to designer's instructions. Travis-Johnston Projective Test was scored by method authors developed:

1. Independent judges score each story for 13 criteria that comprise that PARI factors of: (a) hostility-rejection vs. acceptance; (b) authoritarian-control vs. democratic attitude.
2. Judge reads all stories of each subject and gives global rating--four global ratings for each subject on the two PARI factors using a five-point scale.
3. Reliability of scoring and rating of stories is checked by having one author also score and rate all stories and check with the judge's decision. Reliability ratings were 18.4 per cent to 16 per cent on categorizing stories by 13 criteria. Reliability ratings for global judgment of subject's attitudes was 58.3 per cent to 77.7 per cent.

Findings: 1. Chi-square comparing PARI scores with Travis-Johnston Test Ratings of subject global attitudes on the Authoritarian versus Democratic Control factor was not significant. 2. Chi-square significance at $p < .05$ exists between PARI scores and global rating of Travis-Johnston Test on Factor B, rejection versus acceptance.

Conclusions: 1. Factor A, chi-square, is insignificant because "mothers' defensiveness" alters PARI score but not Travis-Johnston score (more mothers high authoritarian on this than on PARI test). 2. With the use of better instruments, we could better "relate parent attitudes to various child behaviors."

3.1.2.2 Prothro, E. T. Socialization and social class in a transitional society. Child Development, 1966, 37, 219-228.

Purpose: "The study was designed to gather data on the child-rearing practices of Greek mothers and compare class differences among them with differences found in similar studies of Lebanese (Prothro, 1961) and American (Sears and others, 1957) mothers."
Subjects: Subjects were 496 mothers of 4 1/2- to 6 1/2-year-old children who seem normal, living with both natural parents, and whose parents were both Greeks and of the Greek Orthodox faith. To obtain subjects from the middle class, working class, and peasant class, mothers from the major cities of Athens and Thessaloniki, and from two remote farming villages were selected. "Though an attempt was made to obtain subjects from the middle and lower class in the cities," the selection of urban mothers "was clearly not of a nature to yield a proper statistical sample of the city."
Procedure: Each subject was interviewed in her home by an English- and Greek-speaking female Greek college student who was "well acquainted with techniques and aims of interviewing in the social sciences." Interviews lasted from 60 to 90 minutes and consisted of direct questions adapted from Sears questionnaire used with Massachusetts mothers in 1957. Assignment of social class status was made by the interviewer on the basis of information gathered during the interview concerning age and education of the parents, condition of home, location of home, style of living, leisure time occupations.
Design: All information was analyzed to compare child-rearing practices in each social class interviewed: city middle class, city working class, village peasant class. All data reported is significant at the .01 level or better.
Results: 1. Lower class mothers in cities and villages describe themselves as significantly more permissive than middle class mothers in their treatment of infants; e.g., significantly more lower class mothers breast feed their child, wean from breast later, wean gradually, avoid scheduled feedings, swaddle the infant, pick up the infant if he cries, believe a crying infant should be picked up, begin toilet training later and take longer. 2. In response to questions about raising a child of about 5-years-old, middle class mothers assumed a slightly significantly more permissive attitude towards fighting for self-defense, dependency of the child on the adult, child nudity and obedience. On the issues of fighting in self-defense

and lack of obedience, the differences were particularly with middle class mothers most permissive, and village mothers least permissive. 3. In answering questions about maternal warmth (e.g., time spent with child, affection shown towards the child, and how the interviewer rated the mother on this variable), middle class mothers indicated significantly greater warmth. 4. On questions about disciplinary techniques there were consistent class differences. Middle class mothers significantly more frequently mentioned giving a child affection or some tangible reward, whereas city working class and peasant class mothers used progressively more physical punishment. 5. Three questions asked about mothers' expectations and the results indicate that significantly more demands are made of the lower class child. 6. In response to questions about educational aspirations for the child, middle class mothers had significantly higher hopes and expectations with working class next and peasants last. 7. In response to questions about the father's role in the home, middle class mothers reported family decisions are significantly more cooperative and husbands help fairly often with the care of the infants; whereas, peasant mothers reported just the opposite pattern, and the city working class mothers were in between these two groups.

Conclusions: The pattern of middle class mothers being more permissive towards young children and less permissive towards infants, the peasant class being the opposite of this, and the city working class midway between the two has also been found in Lebanon (Prothro, 1961), Java (Danziger, 1960), and Turkey (Rustow, 1955) and may be "widespread in transitional societies which have both a traditional peasantry and an urban middle class." In America, the middle class is permissive with the young child and the infant, the latter occurring possibly because of the influence of child care literature stressing this approach.

3.1.8 GENERAL

3.1.8.1 Banta, T.J. Educating children for adulthood. A talk for the Cincinnati Preschool Education Council, Cincinnati, September 15, 1965.

This paper is a statement of belief. As such, it makes very broad statements rather than a testable hypothesis. The author's purpose is to build a bridge between psychological theory and educational practice by expressing belief in a common aim. The aim is to help children become "autonomous" adults. People involved with development either from a theoretical

or practical point of view can work on this. He says that "optimal developmental processes move from the given world to the chosen world," "given" being what the child starts with, like race, sex, genetic endowment, and"chosen" being the situation of a fully functioning autonomous person, "a person who can make his own choices" within the limits set by society. The author cites four people who, he feels, have made contributions to educating children for autonomy. They are Montessori, Sylvia Ashton-Warner, A.S. Neill (Summerhill), and Carl Rogers.

3.2
SCHOOL PERFORMANCE

3.2.4 INTERVENTION

3.2.4.1 Bereiter, C., and Engelmann, S. An academically oriented preschool for culturally deprived children. In Hechinger (editor) Preschool education today. Garden City, New York, Doubleday, 1966.

Bereiter, C., and Engelmann, S. Teaching disadvantaged children in the preschool. Englewood Cliffs, New Jersey, Prentice-Hall, 1966.

The authors describe a preschool program which they devised for the purpose of bridging the gap between the culturally deprived and culturally privileged child. The article describes the initial implementation of the program and the results of the first year.

Theoretical position: The position taken by the authors is new and may be regarded as innovative or reactionary, depending on the inclination of the reader. Simply stated, it is:

1. It is valid to use the term "culturally deprived" when referring to lower class children. This is especially true as a working definition; cultural deprivation is defined as lack of those particular kinds of learning that are important for success in school.
2. "Those particular kinds of learning" are identified as language skills. Cultural deprivation then is synonymous with language deprivation. The line of reasoning on this point goes something like this: language differences between classes (lower and middle) are evaluated against an absolute standard which could not be used when evaluating different languages or cultures; i. e., English with French. Therefore, lower class language (or speech) is judged deficient because it is not standard English. By depriving the lower class child of the langauge of the middle classes, one is depriving him of the ability to become middle class and is therefore reinforcing the existing inequalities.
3. The language deficiency of the culturally deprived child has been identified as the failure to master certain uses of the language; i.e., transmitting information, monitoring his behavior and carrying on verbal reasoning; in short, cognitive uses of language. He is unaware of word boundaries and therefore cannot make effective use of grammar and syntax rules. He has no mastery of structural words (if, on, in) and inflections which are necessary for expression and manipulation of logical relationships.

4. Culturally deprived children at the ages of three and four are so retarded in these skills that programs must be devised which will accelerate learning at a faster than normal rate in order to give these children the same chances for school success as the middle class child.
5. Gains made in IQ and on other achievement tests by culturally deprived children who have been in enriched nursery schools (whose curriculum is based on standard nursery school curriculum) are too small to have a significant effect on the child's later school achievement.
6. Middle class nursery school is inadequate as a model of preschool education for disadvantaged children because this nursery school complements the influences of the privileged home instead of duplicating them--this minimizes many of the influences that have been responsible for superior intellectual development of middle class children.
7. Since those skills which the culturally deprived child lacks have been specifically identified it makes sense to devise a program that will focus directly on teaching them. The program must concentrate on specific skills in order to do the job that must be done in the time available.
8. The authors assume that children will learn faster from direct and intensive teaching. Because of this assumption and in line with their theoretical position, their program resembles traditional programs for teaching foreign languages.

Other important aspects of their theoretical position:

9. Cultural deprivation is distinguished from sensory deprivation, which pertains only to quantity of sensory stimuli. They are concerned with the quality and use made of the stimuli and have taken this into account in designing their program.
10. Disadvantaged child's basic problems are intellectual or cognitive rather than social or emotional.

Description of program: Specific tasks were proposed which the child should be able to perform at end of preschool program. Tasks range from being able to distinguish words from pictures to being able to perform certain if-then deductions. Direct instruction was used to teach these tasks (planned lessons, demonstrations, drill, exercises, problems and the like). From first day, children were given intensive, fast-paced, highly structured program of instruction in basic language skills, reading, and arithmetic. Each of these three subjects was taught as a separate class, each with its own teacher, the children circulating in groups of five from class to class. Classes were approximately 20 minutes in length. The only other major educational activity was singing, where specially written songs were employed to give additional practice in skills being taught in the classes.

Subjects: 15 Negro children with a median age of 4 years, 6 months. Cultural deprivation was determined by income of family, whether or not older children in family were having problems in school and on the basis of teacher judgment that homes were especially unfavorable educationally (teachers made home visits).
Testing: Beginning of school year--on the Auditory-Vocal Automatic and the Auditory Vocal Association, two subtests of the Illinois Test of Psycholinguistic Abilities, the children tested at the 3-year-old level. At the end of six weeks, the Illinois Test of Psycholinguistic Abilities was administered in full. On the two tests administered previously, the children gained eight months. (These subtests measure verbal reasoning and mastery of grammatical inflections.) On the verbal encoding subtest (a measure of ability to use descriptive language) subjects tested a year retarded. At the end of four months selected subtests of the Illinois Test of Psycholinguistic Abilities were administered (same three tests mentioned above). On the tests of reasoning and grammar, subjects gained three to four months. On verbal encoding subjects had gained approximately a year. At the end of seven months of program, on all subtests of Illinois Test of Psycholinguistic Abilities children had come up to normal with exception of the subtest measuring vocabulary and were six months above average in verbal encoding. At the end of nine months of program, children were given the Wide Range Achievement Test. In reading 11 children scored at or above first grade level. In arithmetic 11 scored at or above beginning second grade level and only one scored below first grade level.
IQ Scores: Children were first tested on the Stanford-Binet two months after school began (to eliminate the six to eight point gain expected from adjustment to school situation). At the time the average IQ was 93. On the retest seven months later the IQ was slightly over 100.

3.2.4.2 Weikart, D.P., Kamii, C. and Radin, N. Perry preschool project--progress report. Ypsilanti Public Schools, Ypsilanti, Michigan, 1964.

Purpose: The Perry Preschool Project is an experiment to assess the longitudinal effects of a two-year preschool program designed to compensate for the mental retardation associated with cultural deprivation.
Subjects: 3- and 4-year-old Negro children living within boundary of the Perry School District coming from culturally deprived families and testing in the range of "educably mentally retarded." (Cultural deprivation rating based on parent occupation, education and income, and density of home population.)
Research design: Matched experimental and control groups were obtained. In addition to the selection criteria (see ablve) two other

factors were balanced when possible, sex ratio and percentage of working mothers. The experimental group attended a cognitively oriented school five mornings a week and received a two hour home visit once a week by the teacher. Contact with the control group was limited to testing and collection of pertinent data. Since children attend the preschool for two years, a new pair of 3-year-old experimental and control groups is added each year to previous samples. The various groups are designated as: Wave 0 (There were 13 in the experimental group and 15 in the control group.) They started preschool in 1962 at age of 4. Wave 0 children have spent a year in nursery school, a year in kindergarten, and are now in first grade. Wave 1 (There were eight in the experimental group and nine in the control group.) They started preschool in 1962 at age 3. They have spent two years in preschool and are now in kindergarten. Wave 2 (There are 13 in the experimental group and 14 in the control group.) They started preschool in 1963 at age 3. They have spent one year in preschool and are now in the second year of the preschool program.

Description of program: School based morning program--group teaching: (10 to 20 minutes). The children were divided into two groups on basis of cognitive development--this division tending to divide 3-year-olds from 4-year-olds. Exploratory instructional units were sequentially introduced by the two teachers, one in charge of each group. Groups met in small rooms apart from large preschool room. The two groups were programmed separately with different activities appropriate to level of development. Examples of units: "Understanding 'dissolving' as a phenomenon, understanding geometric forms, etc." Area teaching (one hour each day): Free play period where children were free to select one of four activity areas (housekeeping, block, art, and preacademic books, etc.). A variety of activities were planned for each area and presented in less formal or structured manner although goals of concepts to be learned with accompanying lesson plans were used. Field trips were taken and related to area training and used to provide first hand experience with subject matter of curriculum.

Home based program: Teacher visits to the home in order to involve mothers in the education of their child, to demonstrate the process of teaching to the mother, and to show her how to tutor a child. "Cognitive skill" training sessions were held with the mother, during which time the following areas were stressed: visual training in the home, fine motor skill coordination, auditory training, premath training, and general science.

Group meetings: Monthly small group meetings with the parents were held to further develop the relationship between the school and the home.

Peabody Picture Vocabulary Test:
Wave 0 (tested fall '62 and spring '64): Experimental group tested significantly higher ($p < .05$) at pretest. At posttest, however, the control group scored slightly higher than the experimental group.
Wave 1 (tested fall '62 and spring '64): At the pretest there was a significant difference ($p < .10$) between the experimental and control group. At the end of two years, the significance increased to $p < .01$ with the experimental group showing the largest gain.
Wave 2: After completion of one year, the experimental group had gained 3.7 points. The difference between the two groups was significant at the $p < .01$ level.
Illinois Test of Psycholinquistic Abilities:
Wave 0 (tested spring '64): Experimental group scored higher than control on six out of nine subtests but not significantly. They scored significantly higher ($p < .05$) on one subtest. The control group scored significantly higher ($p < .05$) on one subtest.
Wave 1: After two years of nursery school, the experimental group scored significantly higher ($p < .05$) than the control group on two subtests, motor encoding and auditory vocal association.
Wave 2: No test results given.
Gates Reading Readiness Tests:
Wave 0 (tested spring '64): Experimental group tested higher on all subtests--significantly ($p < .05$) so in two of them.
Wave 1 and 2: Have not been tested.
Teacher ratings (Vinter Rating Form and the Ypsilanti Rating Scale): Experimental group from Wave 0 were appraised by their teachers as being significantly better than the control group in interest in subject matter, initiative, use of teacher, level of imagination and verbal communication.
Findings summarized by Test: Stanford-Binet:
Wave 0 (tested fall '62, spring '63, spring '64): After one year experimental showed a gain of from 78.4 to 91.1, a mean difference over the control group of 8.9 points significant at the $p < .01$ level. At the end of the second year the experimental group had lost about two points (88.9) and the mean difference between the two groups was no longer significant.
Wave 1 (tested fall '62, spring '63, spring '64): The experimental group showed a gain after the first year, 79.1 to 90.6. The difference between the experimental and control group at this time was significant at the $p < .05$ level. After the second year, the difference had decreased to a significance of $p < .10$ and the IQ score of the experimental group dropped to 88.9.
Wave 2 (tested fall '63 and spring '64): At the end of one year of the preschool program the experimental group showed a large gain in IQ 80.5 to 100.9. The difference between the groups was highly significant at the $p < .001$ level.

Leiter International Performance Scale:
Wave 0 (tested fall '62 and spring '64): Experimental group tested significantly higher ($p < .05$) at pretest, but gains of control group were so great that significant difference disappeared at posttest.
Wave 1 (tested fall '62 and spring '64): At the end of two years of nursery school there was no significant difference between experimental and control groups. Both groups showed gains of approximately 25 points.
Wave 2: At the end of 1 year, the experimental group showed a gain of 33 points. The difference between the experimental and control groups was significant at the $p < .001$ level.
Additional Results (From a later report dated February, 1966): The test results from Wave 1 and 2 were combined after each group had completed two years of the program and then looked at for the purpose of discovering general trends. A trend noted after the comparison of the longitudinal IQ patterns of the control and experimental groups was that the control group declined on the Peabody but remained stable on the Binet during the two year period. The experimental group continued to show accelerated rates of growth on the Peabody, but on the Binet it demonstrated a dramatic spurt, followed by decline during the second year. Differences between the two groups on both Peabody and Binet at the end of two years were significant at the $p < .001$ level. Results from tests given the Pilot Group (Wave 0) at the end of first grade: differences between the control and experimental groups on the Binet and Peabody were not significant, differences between the control and experimental groups on the California Achievement Tests (reading, arithmetic, language skills) and the Gates Reading Test (word recognition, sentence reading, paragraph reading) were significant at the $p < .05$ level with the experimental group scoring higher than the control.
Conclusions: Different tests yield different scores and patterns. The decline in Stanford Binet IQ during the second year may have been due either to constitutional limitations or to weaknesses in the curriculum. It is the feeling of the staff that this loss of IQ points indicates a need to strengthen the curriculum by systematically utilizing the existing theories of cognitive development (particularly Piaget's). The impact of the preschool project may be strongest in the area of achievement. The gains in this area by the experimental groups are encouraging and may outweigh the insignificant IQ differences.

3.3
EFFECTS OF NURSERY SCHOOL AND DAY CARE

3.3.2 ENVIRONMENTAL

3.3.2.1 Kyselka, W. Young men in a nursery school. Childhood Education, 1966, 293-299.

Purpose: The author is interested in the effects of having men in a nursery school as lay participants; that is, as play companions to the children but not teachers, although some are put in a teacher's role by the preschoolers.
Method: Four high school seniors (males) spend one hour a day for 10 months in a nursery school. They come at different times and are usually never together in the nursery or ever with the same group. Long daily logs are kept and lengthy interviews--private and group--were taken.
Findings: No statistical analyses were made. The children reacted to the boys at first in their individual ways--agressive children acted aggressively toward them and others were friendlier; but eventually all the children had harmonious interactions with the visitors who were not sources of discipline but another friend to play with.
Conclusions: The need for more men in the nursery school is pressing and should be encouraged. The children, the men, and society benefit.

3.3.3 MEASUREMENT AND TECHNIQUES

3.3.3.1 Wilensky, H. Observational techniques in preschool classrooms. Institute for Developmental Studies, School of Education, New York University.

Introduction: The author describes a set of observational techniques or scales which were developed to provide a systematic and objective description of an experimental preschool program. The researchers felt that such a description was needed in order (1) to determine the extent to which theoretical principles and educational objectives were being implemented in the classroom, (2) to determine the extent to which the enrichment program was being replicated between classes, and (3) for the identification of teacher-pupil behavior which contributed to enhancement of cognitive skills in children.
Stated hypotheses: (1) Enhancement of cognitive skills depends on the amount of classroom time devoted to explicitly defined educational activities. (2) Such activities could best be promoted by teacher training.

Guided by these goals and hypotheses, the observations were set up to measure the amount of time teachers spent in teaching in both formal group lessons and individual tutorial sessions. This was organized in such a way that two scales were created for the observation of The Play Period--during which time tutorial sessions with individual children were possible. These two scales were (1) The Location Activity Material Inventory (LAMI) for purpose of categorizing the child's activity and

(2) The Teacher Play Period Rating (TPPR) for the purpose of describing the teacher's behavior during this period. In addition, two scales were created to provide description of the teacher's and pupil's activity during the formal or structured Group Lessons. These were (1) The Teacher Observation Scale (TOS) and (2) The Child Attention Rating Scale (CARS). Finally, the Time Distribution Record (TDR) was devised to record the time distribution of activities in the entire program.

The Time Distribution Record (TDR): This is a straightforward record of the time devoted to three kinds of activities: child-centered, teacher-centered, routines and snack time. The total time spent in the program would be divided into these three categories.

I. Categories defined and subdivided

A. Child-centered activities		
	1. Play--indoor	Free play
	2. Play--outdoor	Opportunity for tutorial or informal teaching
	3. Informal reading	Children independently looking at books
	4. Rest	Children lying on floor mats
B. Teacher-centered activities		
	1. Circle time	Formal presentation of lesson
	2. Quiet games	Fingerplays, games, singing, records
	3. Rhythm	Instrument, dancing. . .
	4. Story	Read or told to entire class by teacher
	5. Snack lesson	Similar to circle time--formal lesson.
C. Snack and routine		Transitions--dressing, washing up, etc.
D. Miscellaneous		Excursions

II. Sample makeup: No description could be found in the paper of children, classes, programs, etc. The data was collected on five classes for the first half of the year (1964-65) and three classes the second half of the year--data was lost for this half on two classes.

III. Rating procedure: Each observer spent the entire day of three hours recording the time when activities began and ended. An average of 18 observation days were collected for three classes for full year and an average of nine for two classes for half a year.

IV. Computations: The mean daily amount of time devoted to each activity and its equivalent percentage of total time was calculated for each school for the first and second halves of academic year. Analyses of variance were utilized to test for differences between time periods and between the three schools and for each of the activities.

V. Findings: The combined percentages for three classes for the entire year showed 44 percent of the time was devoted to child-

activities, 25 per cent of the time was devoted to teacher-centered activities and 27 per cent of the time to routines. Considerable variability existed between the five classes in the time spent in various individual activities. The most interesting findings in this regard was that classes differed by as much as 8 per cent on the time spent in formal teaching or circle times. Significant differences ($p < .01$ level) were found between the first and second half of year for outdoor play. Significant differences (no statistical information given) were found between schools on the categories of circle time, story time, routines, unfilled time, snack time and snack lesson.

VI. Conclusions: The purpose of this record was to find out how well the outlined program was being implemented. The use of formal teaching techniques was stressed in the training sessions. Findings reveal the failure to establish this standard program. The teachers apparently reacted to many cues in selecting daily activities which took precedence over scheduled lessons. "However, the failure to meet demands for a standard curriculum does not have any implications for pupil achievement as program's emphasis on group lessons was based on theoretical issues rather than empirical evidence."

The Location Activity Material Inventory (LAMI): This scale was designed to provide an objective description of the child's behavior during the play period. The dimensions studied were (1) the subject's geographic location in the classroom (functional areas were defined such as book corner, etc.), (2) the equipment he was using, (3) his social contacts, and (4) the type and intensity of his motor activity.

A. Categories

1. Location: The presence of the subject in one of the following seven areas was recorded: book corner, table area, paint area, doll corner, block shelves, manipulative toy shelves, and open center area.
2. Material: Toys and equipment were classified into 19 types; such as BO is books, MT is manipulative toys, HH is household equipment, etc. The use of the material was recorded using these code symbols. Simultaneous use of more than one material was also recorded.
3. Interaction: One or two of the following three types of interaction were recorded for each observation--(T) teacher, (C) child or children, (0) no social interaction.
4. Activity level: The amount of activity exhibited by child was rated in terms of five descriptions: (1) no overt movement, (2M) moderate expenditure of energy-stationary, (2L) locomotion with moderate expenditure of energy, (3M) Movement with high expenditure of energy, (3L) locomotion with high expenditure of energy.

B. Rating procedure: Single observer focusing on individual children in the order of names listed on the observation form. Observation and recording of one subject averaged 15 seconds. Total time for observation and recording LAMI for an average of 15 children took from 2 to 4 minutes. Five or more observations during each play period were usually obtained. There were 95 observation days out of a total of 481 school days for four classes. Median number of ratings for each child was 120.

C. Sample : Four prekindergarten classes in Harlem. Children drawn from nonwhite, low class population with incomes below $4,000. Data collected in 1963-64.

D. Interrater reliability: Data for reliability test consisted of 169 pairs of observations. Reliability computed using Cohen's coefficient of agreement for nominal scales (kappa). Results given.

E. Findings specific to category.

1. Location: Average percentage of children observed in each area for all classrooms for entire year: book area was 4 per cent; table area was 36 per cent; easel and sink was 16 per cent; doll and kitchen was 14 per cent; open area was 15 per cent, etc. Frequency of use of various areas varied with physical characteristics of room. Teacher preferences affected choice of play areas. (Some percentages were given but no information as to statistical analyses performed. There was no breakdown or comparison of area use shown by class.)
2. Materials: Frequency of use of each material was determined by number of times it was recorded in relation to the number of observations. Rank order of materials preferences between classes was very similar. Intercorrelations (Spearman rho) ranged from a low of .73 to a high of .93 among the four classes. The differences between classes were explained in terms of teacher preferences. The rank order of materials preferred by all four classes was: (1) art, (2) manipulative, (3) none, (4) household, (5) blocks, etc. In terms of the program objectives the infrequent use of books (1 per cent, the lowest of all the materials) illustrates the difficulty in executing objectives. Findings also showed differences over time for all classes in use of materials. Sex differences were observed--girls used household equipment, water, and dolls more than boys; boys used blocks and manipulative toys more than girls. (The differences were reported in percentages.)
3. Social interaction: Data sheets were marked for (1) child alone, (2) child with children, (3) child with teacher

(which also included child with teacher with children). Because the teacher-child contacts were deemed most important for enhancement of cognitive skills the following questions were posed: (1) What are the characteristics of children with whom teachers tend to interact? (2) Did teachers spend time with isolated children in order to change their behavior? (3) Did teachers spend more time with less bright children giving tutorial attention? Results: Large differences were observed between classes. In three classes "child along" was observed in 73 per cent of observations in contrast to 42 percent in one class. The teacher in Class C spent twice as much time with children (20 per cent) as did other teachers (average 11 per cent). The child-child interaction rate observed in Class C was 38 per cent compared to others of 16 per cent. Small but consistent change over time was toward increased socialization. Teachers interact slightly more with boys; 68 per cent over class median compared to 36 per cent of girls were above class median ($p < .05$). In three of four classes teachers spent more time with brighter children. Spearman rank difference correlations were calculated between pretest IQ rank within each class and teacher-interaction rank within each class. Rhos of .63, .15, .50, and .53 were obtained. Rhos between "child alone" and IQ were -.53, -.28, -.19, and -.40. Isolates may have lower IQ's;however, only two of the correlations approach significance.

4. Motor activity: Hypotheses: high motor activity is detrimental to learning; hyperactivity is related to aggressive behavior; conversely, high inactivity may reflect low motivation or reaction to rigid controls imposed by teacher; change over time would be toward decreased activity. (Only the latter was tested.)
   Results: Change over time was in the direction hypothesized with extreme levels of activity diminishing and moderate stationary activity increasing significantly ($p < .01$). Boys, in general, were more active, scoring significantly higher (F ratios at 5 per cent level) on moderate locomotion and intense. Findings suggest that the classroom may influence activity level as the number of aggressive and intense activity incidents were more frequent in the older, smaller classrooms than in the larger, newer classrooms.

The Teacher Play Period Rating (TPPR): The purpose of this scale is to describe the teacher's activity during the indoor play period. The teacher's activity at the time of observation was checked as one of the following:

I. Category outline (categories defined with examples)
   A. Teacher-child interactions
      1. Informal teaching
      2. Auxiliary help
      3. Control behavior
      4. Direction of a child to an activity
      5. Social contact
      6. Role playing
      7. Nondecodable
   B. Teacher-assistant teacher interaction
   C. Teacher-other adult interaction
   D. Teacher engaged in other activities
   E. Teacher observing

II. Sample: No description given. Five classes were used for first half of year, three for second half. Data was collected in 1964-65.

III. Rating procedures: First half of year initial attempts at continuous recording proved too complicated with consequent low interrater reliability. Second half, a single observer took time samples of the teacher's behavior marking the checklist. These time samples were taken every 15 seconds so that 20 discrete ratings were obtained during a five-minute interval. Occasional double scoring was necessary.

IV. Reliability: Two pairs of five-minute ratings were analyzed using Cohen's coefficient of agreement for nominal scales (kappa). The standard error of kappa for this sample was .03, indicating adequate agreement.

V. Results: Teachers spent the major portion of their time with the children. The median total time spent with children averaged 73 per cent with a range between teachers of 66.8 to 82.4 (first half of year) and 64.6 to 75.5 (second half). Significant differences between teachers were observed in the amount of time spent with children in the different sub-categories; time devoted to informal teaching ranged from 12.8 per cent to 24.9 per cent; time devoted to auxiliary help ranged from 11.6 per cent to 23.9 per cent (second half results). (Difference are all cited in percentages). Assistant teachers spent considerably more time in activities which did not involve interaction with children than did teachers in four out of five classes (percentages).

VI. Conclusions: Although examination of individual patterns did yield information concerning teaching styles, the outstanding finding was the relatively small proportion of the teachers time devoted to informal teaching (median average entire year was 18.6 per cent of time in play period) despite the emphasis on opportunity for tutorial contacts during this period. (Many of the differences between teachers could not be interpreted because of the limited reliability of the first half measure.)

THE GROUP LESSON: Two scales were devised for the description of teacher pupil behavior during teacher centered activities, one to describe the teacher's behavior and one for measuring the child's attentiveness.

Scale Number 1--Teacher Observation Scale (TOS): The TOS measures four dimensions of teacher style and was designed for use when the teacher presents a group lesson or story time. The categories are:

I. Categories
   A. Information giving "IG"
   B. Eliciting responses (based on Skinner) "ER"
   C. Feedback
      1. Confirmation
      2. Supportive confirmation
      3. Negation
      4. Corrective negation
   D. Control--trying to direct child's attention to learning activity.

II. Subjects: Four classes (possibly the same ones used with the LAMI); data collected 1963-64.

III. Rating procedure: Continuous recording by a single observer for five-minute periods. One to three TOS ratings could be made each day. Each unit of teacher behavior was recorded as one tally in one of the seven categories. Units are not defined by grammar. One word may be considered a complete unit. Several consecutive units may fall into the same category. Example of unit scoring: "Yesterday I showed you a vegetable (information giving). Do you remember what it was?" (eliciting response).

IV. Preliminary reliability study: Based on 26 pairs of five-minute observation periods, the interrater reliability coefficients exceeded. 90 for each of four observation categories. Inter-correlations among four categories were computed from percentages of number of tallies falling into each category of total number of units in that observation period. Pattern of relationships was consistent with theoretical expectations; i.e., there was an inverse relationship between information giving and eliciting responses. There was a moderate relationship between eliciting responses and feedback.

V. Data collected: Average number of two TOS ratings were obtained per day for an average of 17 days for the year per class. Average duration of time teachers were observed per day ranged from 7.7 to 11.2 minutes.

VI. Findings: Striking differences between type of teaching activity used--two teachers devoting 85 per cent to 64 per cent of time to reading stories as opposed to 35 per cent and 51 per cent of other two teachers. Statistically significant differences in number of behavior units produced. Rate of producing behavior units varied greatly--87 per 5 minutes compared to

52 per 5 minutes. A repeated measures analysis of variance (using percentage scores) revealed significant differences between behavioral categories ($p < .01$) for different teachers. The teachers higher on information giving were lower on eliciting responses. The teacher highest on ER behavior was relatively low on feedback. Ratio between two categories of ER and Feedback differed significantly between teachers ($p < .05$). The type of teaching activity determined the distribution of categories; i.e., story reading elicited more IG items than ER items. Teachers differed in their use of control items.

VII. Interpretation of findings: Significant differences in teaching styles of the four teachers suggest further investigation into the relationship between various categories and pupil achievement. The TOS did reflect the effect of previous experience in the program. Those teachers in the second year were implementing more of the program than the less experienced teachers. Changes over time also indicate that all teachers tended to devote less time to formal teaching as the year progressed.

Scale Number 2 for Group Lesson: Child Attention Rating Scale (CARS):

Hypotheses guiding construction of categories: Paying attention to the teacher during a lesson is an essential prerequisite to learning in the overall educational process. The ability to listen attentively should increase during the school year. This ability will determine pupil achievement. A measure of the pupil's attentiveness may provide a means of evaluating specific lessons and the effect of teacher styles.

Behavior dimensions scored:

1. Visual behavior
   (+) Child looking at appropriate object
   (-) Child looking away from appropriate object
   (u) Unclassifiable (eyes closed)
2. Verbal behavior
   (+) Appropriate (essentially obeying teacher)
   (-) Inappropriate (essentially disobeying teacher)
3. Motor activity
   (+) Appropriate
   (-) Inappropriate
   Manipulative and locomotion activity rated separately for:
   1. No motor activity
   2. Minimal or slow
   3. Violent activity
   4. Unratable
   (It is not clear from writeup how all these dimensions for motor activity are scored).

Rating and scoring procedures: Single observer observed each child in order of name appearance on data sheet, instantaneously checking all the behavior categories. All appropriate (+) ratings were scored 1. Unratable scores (u) were 0. Visual or verbal inappropriate

were scored -1. Manipulative and locomotive inappropriate were weighted negatively according to intensity--range of possible scores from +4 to -6.

Preliminary criterion validity study: Pilot study of concurrent validity of CARS was conducted in a first grade class. Ratings were made on 16 children while the memory subtests of the California Test of Mental Maturity were administered. Attention scores from three observations were obtained for each child and correlated with sum of raw scores of CTMM sub-tests. The Pearson r of .59 (SEr was 24) was considered adequate for exploratory study using the CARS.

Data was collected in 1965 and 1966 and is currently being analysed. No description of sample was given.